Qsee®
simplicity - quality - technology

User Manual

MODEL QC444

H.264 NETWORK DVR

Variable CIF and D1 Recording Options

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Thank You for Choosing a Q-See Product!

All of our products are backed by a conditional service warranty covering all hardware for 12 months from the date of purchase. Additionally, our products also come with a free exchange policy that covers all manufacturing defects for one month from the date of purchase. Permanent upgrading service is provided for the software and is available at www.Q-See.com.

Be certain to make the most of your warranty by completing the registration form online. In addition to warranty and technical support benefits, you'll receive notifications of product updates along with free downloadable firmware updates for your DVR. Register today at www.Q-See.com!

Please see the back of this manual for exclusions.

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Manufacturer shall not be liable for any damages whatsoever from misuse of this product.

About this Manual

This manual is written for the QC444 DVR and was accurate at the time it was completed. However, because of our ongoing effort to constantly improve our products, and the different capabilities of the two models additional features and functions may have been added since that time and on-screen displays may change. We encourage you to visit our website at www.Q-see.com to check for the latest firmware updates and product announcements.

This manual covers the setup and local operation of the DVR. Instructions for configuring the DVR for remote access, along with instructions for monitoring the DVR using a computer or mobile device, are contained within the **Remote Monitoring Guide** which is included on the CD that accompanied your DVR and which can also be found on ***www.Q-See.com***.

Throughout the manual we have highlighted warnings and other important information that will assist you in operating your new system in a safe and trouble-free manner. Please take the time to read and follow all instructions and pay attention to alerts as shown below:

IMPORTANT! Red boxes with this icon indicate warnings. To prevent possible injury or damage to the product, read all warnings before use.

NOTE! Text in blue boxes with the Information icon offer additional guidance and explanations about how to make the most out of your system.

Version 1.2 5/16/11

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INTRODUCTION CHAPTER 1

To prevent damage to your Q-See product or injury to yourself or to others, read and understand the following safety precautions in their entirety before installing or using this equipment. Keep these safety instructions where all those who use the product will read them.

WARNING! ELECTRIC SHOCK RISK!

- Check the unit and any accessories included in the package immediately after opening. If items are missing or damaged, repackage and return to the point of purchase.
- Use the proper power source. Only use the power adapter supplied with your system. Do not use this product with a power source that applies more than the specified voltage (100-240V AC).
- Never insert anything metallic into the DVR. Inserting anything into the DVR or its case can be a source of dangerous electric shock.
- Do not operate in dusty areas. Avoid placing the DVR in places that are dusty.
- Do not expose this product to rain or use near water. If this product accidentally gets wet, unplug it and contact an authorized dealer immediately.
- Keep product surfaces clean and dry. To clean the outside case of the DVR, gently wipe using a lightly dampened cloth (only use water, do not use solvents).
- Do not operate this DVR without the cover securely in place. Do not attempt to do any repairs to the DVR yourself. If there are unusual sounds or smells coming from the DVR, unplug it immediately and contact Q-See technical support. Under no circumstances should the cover be removed while the device is connected to a power source. You should only remove the cover to install/replace the hard disk drive (**See Chapter 5**) or replace the standard 3v lithium cell battery on the motherboard. These are the only user serviceable parts. You may need to replace the battery if the internal clock resets itself after a power outage
- Handle DVR box carefully. If you accidentally drop your DVR on any hard surface, it may cause a malfunction. If the DVR doesn't work properly due to physical damage, contact an authorized dealer for repair or exchange.
- Make sure there is proper air circulation around the unit. This DVR system uses a hard drive for video storage which generates heat during operation. Do not block air holes located on the bottom, top, sides and back of the DVR as they are designed to keep the system cool while running. Install or place this product in an area where there is ample air circulation.
- Provide proper ventilation. This DVR has a built-in fan that properly ventilates the system. Do not cover or impede this fan.

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FEATURES AND SPECIFICATIONS

This combo DVR integrates a DVR (Digital Video Recorder) and LCD screen together. It is an excellent digital monitor with a sleek appearance and innovative capabilities which are functional and reliable.

It uses an embedded Linux OS to maintain stable operation and a popular H.264 compression algorithm to produce high quality low bit stream footage that is easy to manage and efficient to transfer over the internet. It can use various functions such as record, playback, and monitoring at the same time and produces audio and video synchronization. This product has advanced technology and strong network data transmission functions.

This combo DVR utilizes a high quality LCD capable of producing rich and vivid images. It's convenient 19-inch screen enables maximized viewing capabilities. This is an ideal system that can be used in an in-home environment and a variety of business environments that require enhanced monitoring capabilities such as: super markets, convenience stores, transportation, etc.

This product offers the following features:

Smartphone Compatible

Access live footage directly from your iPhone, or other Smartphone. Your DVR can also be set to e-mail your hand held-device whenever specific activity occurs, such as motion detection.

View Your Video Feed Online with No Service Fees

View your DVR's live or recorded video footage on any Internet accessible computer with Internet Explorer, Mozilla Firefox and Google Chrome (using IE plug-in).

Stay Notified with Customizable Email Alerts

Set your system up to notify you when an event has occurred at the location you are monitoring. Notification alerts can easily be adjusted to your specifications.

Advanced Motion Detection Activated Recording

Advanced motion detection settings ensure that false alarms are not triggered. The easy to use motion detect set up screen allows you to mask out certain areas which experience heavy movement in order to avoid false alarms and avoid unnecessary record triggering.

Multiple Backup Options

A built-in USB port gives you the option of backing up and transferring your video footage using a flash drive or external USB hard drive. You can also connect to an external CD/DVD writer to burn your file footage right onto a compact disc or DVD disc. Files can also be accessed from your DVR system to a remote computer location by logging on remotely.

Connect to a TV or PC Monitor Easily

This system comes with VGA and BNC video out ports to allow you to connect to a TV or computer monitor for viewing purposes. You can utilize both outputs simultaneously.

Included Mouse and Remote Control

In addition to the front panel button controls, system can also be booted up and shut down using the included remote control or mouse. Mouse operation function supports intelligent operation by enabling copy and paste functions.

Storage Function

Encrypted file format to ensure data security and avoid vicious data modification.

Compression Format

Supports multiple-channel audio and video. Independent hardware decodes the audio and video signal from each channel to maintain video and audio synchronization.

24/7 Scheduled Recording

Choose which days of the week and hours of the day you want to set your DVR to record or not record.

Multiple Playback Options and Advanced Search Functions

Supports real-time recording on each channel independently. Search through recorded files while you are playing live footage, monitoring through a remote location using a supported internet browsing application and backing up system files. A variety of playback modes include: slow play, fast play, backward play and frame by frame play.

Network Monitoring

Supports network remote real-time monitoring (available bandwidth permitting) and remote record search.

Alarm Activation Function

Several relay alarm outputs enable you to pair your system with an on-site alarm system.

Communication Ports

- Standard Ethernet port allows you to access the DVR from a network or the Internet.

NOTE! Depending on your point of purchase, your DVR may have the hard disk drive already installed. If your drive was packaged separately, or if you wish to upgrade your installed drive up to a 2TB drive, please see Chapter 5 at the back of this manual which covers installing the drive.

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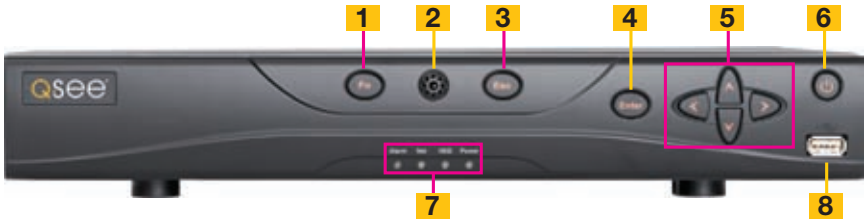
CONNECTIONS AND CONTROLS CHAPTER 2

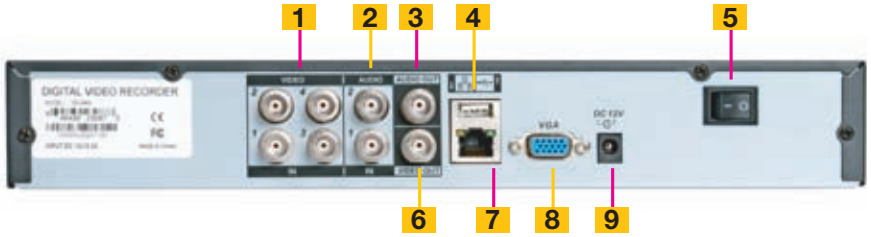
2.1 FRONT PANEL



PICTURE 2-1

Number	Item	Function
1	Function Button	Single Channel Viewing Mode: Opens Color Adjustment Virtual Keyboard: Backspace function
2	IR Sensor	Infrared Receiver for Remote Control
3	Escape Button	Exit any menu or current operation
4	Enter Button	Viewing Mode: Go To Menu In Menu: Acts as mouse click
5	Directional Buttons	Navigate through menus. Change selections in pull down menus (Up/Down buttons) Toggle settings (Up/Down buttons)
6	Power Button	Puts DVR into Standby mode or wakes it up.
7	Status Lights	Alarm: Not functional on this model Net: Red light indicates that network connection is lost HDD: Red light indicates that hard drive is operating Power: Red light indicates that DVR is powered up
8	USB Port	For use with flash drive when backing up or updating firmware. Not for use with mouse.

2.2 REAR PANEL



PICTURE 2-2

Number	Item	Function
1	Video In Ports	BNC Connectors for video feed from cameras (4)
2	Audio In	BNC Connectors for audio feed from microphones (2)
3	Audio Out	BNC Connector for audio output
4	USB Port	USB port for mouse
5	Power Switch	Turns DVR on or off. Use Shutdown menu function or front panel power button before switching off.
6	Video Out	BNC Connector to television
7	Network	Ethernet cable connection to network
8	VGA Video Out	To connect to a VGA monitor (19” or larger)
9	Power Input	Connect 12V DC power supply here

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2.3 MOUSE CONTROL

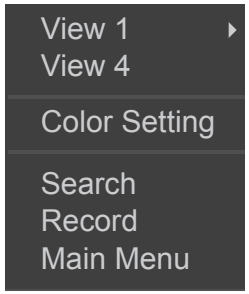
This DVR can be controlled through the USB mouse, the remote control or by using the buttons on the front panel of the device. We have found that the majority of our customers prefer to operate their DVRs using the USB mouse because of its ease of use and flexibility and our manual is set up with this in mind. The remote control allows you to perform most of the day-to-day functions from a convenient distance. It functions as a typical remote control with additional buttons allowing you to navigate through menus and control functions. We recommend that you configure your DVR using the mouse controls, reserving the remote control for operations such as live viewing, file search and playback.

The mouse operates in a manner similar to how it is used on a conventional computer; point-and-click, right-click, double click and so on. How these functions are used is based on the context of where they are used. Some examples are:

LEFT CLICK:
- Selecting an item
- Opening a menu
- Checking a box or motion detection status
- Selecting letters, numbers or symbols on the virtual keyboard.

DOUBLE CLICK:
- Selecting an event for playback
- Selecting a screen to zoom into from multi-screen mode

RIGHT CLICK
- Exits any window. Exits any menu or reopens previous menu.
- Opens **Pop-Up Shortcut** Menu



PICTURE 2-3

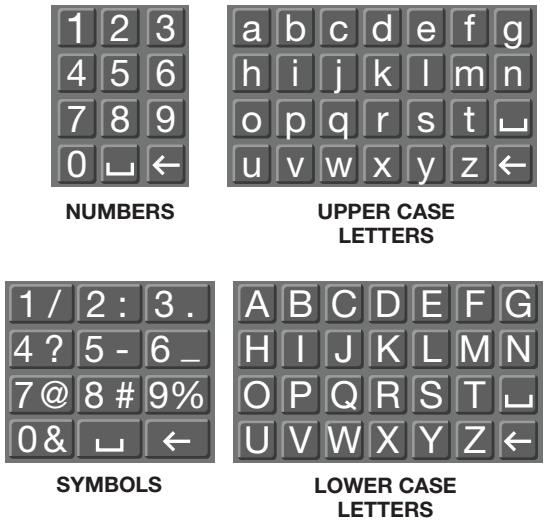
MOUSE WHEEL
- Page up or page down
- Switch items in check box
- Increase or decrease numerical value in numerical input box

CLICK-AND-DRAG
- Select motion detection zone
- Select privacy mask zone

VIRTUAL KEYBOARD

The virtual keyboard is contextual. For example, it will only show digits when the field is for numeral entries. In fields where letters and symbols can be entered, users can switch between various formats – numbers, upper case, lower case and symbols – by selecting the white keyboard symbol that will appear to the right of a field where text can be entered. The symbol itself will change to show which keyboard format is available next.

Available keyboards include:


1 2 3
4 5 6
7 8 9
0 ␣ ←
NUMBERS
a b c d e f g
h i j k l m n
o p q r s t ␣
u v w x y z ←
UPPER CASE LETTERS
1 / 2 : 3 .
4 ? 5 - 6 _
7 @ 8 # 9 %
0 & ␣ ←
SYMBOLS
A B C D E F G
H I J K L M N
O P Q R S T ␣
U V W X Y Z ←
LOWER CASE LETTERS

PICTURE 2-4

The keyboards are used by clicking on the desired character. Spaces are entered using the ␣ symbol and characters are deleted with the ← key. Clicking outside of the keyboard will close it.

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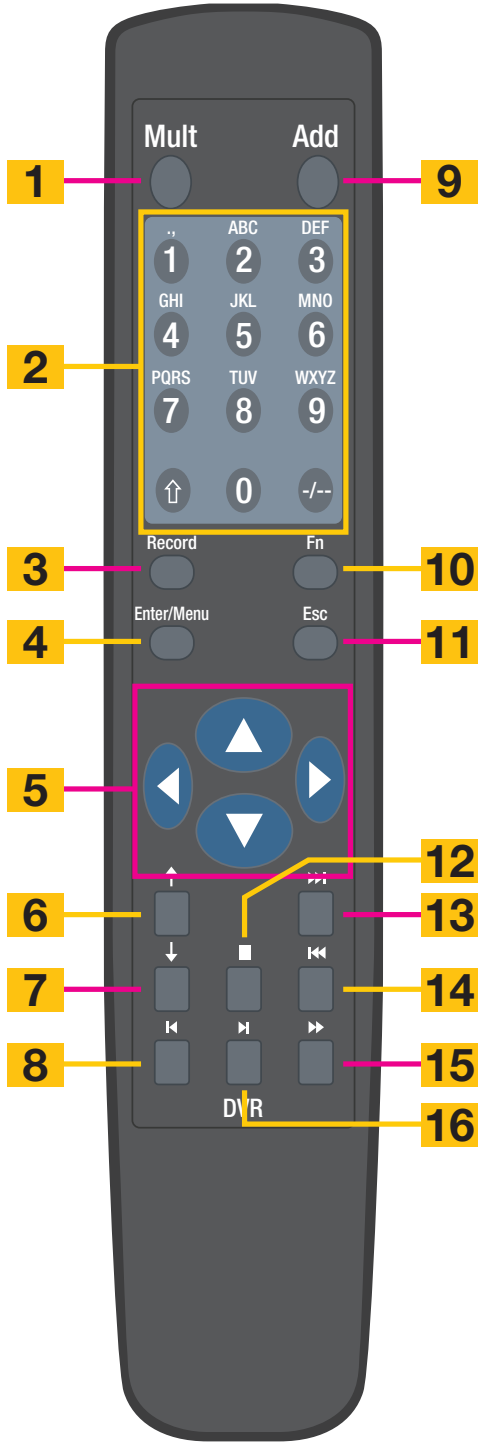
2.4 REMOTE CONTROL

The buttons on the Remote Control operate in the same manner as on a conventional DVR remote. Some buttons have multiple functions depending on which menu is being accessed.

Num	Name	Function
1	Multiple-window switch	Switch between multiple-window and one-window view
2	0-9 number key	Input password, channel or switch channel.
3	Record	Start or stop recording manually In record interface, working with the direction buttons to select the channel to record
4	Enter /Menu key	Go to default button Go to the menu
5	Direction keys	Switch current activated control, go to left or right. In playback mode, it is to control the playback process bar.
6	Previous	In playback mode, playback the previous video.
7	Next	In playback mode, playback the next video.
8	Slow Play	Multiple slow play speeds or normal playback.
9	Address	Click to input device serial number
10	Function/Aux Key	In 1-channel monitor mode: pop up assistant function In motion detection interface, functions as a directional key to complete setup Backspace: Press for 1.5 seconds to clear all contents in current text box. In HDD information interface, used to switch between HDD record time and other information Special combined operation in some menus.
11	Escape/Cancel	Go back to previous menu or cancel current operation (close upper interface or control) In playback mode, it goes to real-time monitor mode.
12	Stop	In playback mode, stop current playback.
13	Forward	Various forward speeds and normal speed playback.
14	Backward	Various backward speeds and normal speed playback.
15	Play/Pause	Reverse playback or paused mode, click this button to realize normal playback. In normal playback click this button to pause or resume playback. In real-time monitor mode, click this button to enter video search menu.
16	Fast Forward	Various fast speeds and normal playback.



PICTURE 2-5

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BASIC OPERATION CHAPTER 3

This chapter is intended to get your system operational in a baseline format now that you've connected your system and turned it on. It combines information and instructions on several submenus and settings but may not mention all of the functions or options available in a given menu. For many users, these basic operating instructions may be all they need to operate their security system. But, because this system offers many more features, later chapters will cover those additional operations in greater detail.

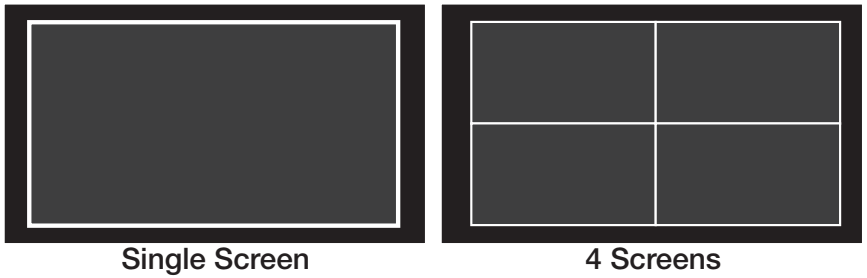
3.1 OPERATION

This DVR can be controlled through the USB mouse, the remote control or by using the buttons on the right side of the device. For the purposes of this manual, instructions will be given for using the mouse.

In operation, the mouse functions in the same manner as one would use a mouse attached to a computer; point, click, right-click, and etcetera. In fields where data needs to be entered, clicking on the field will bring up a virtual keyboard. (**See Section 2.3 Mouse Control**)

3.2 LIVE VIEW

Live View is the default mode for the DVR. It will display the video feeds from up to four cameras and you do not need to be logged into the DVR to view or change the channel(s) on the screen. The actual number of channels displayed depends on the number of cameras you own. You can view a single channel in full-screen mode or four channels simultaneously.



PICTURE 3-1

Clicking on any one screen in multi-view mode will bring that screen to full-screen single-view mode. The exception is in eight-view where clicking on one of the smaller displays will move it to the larger display.

In addition to selecting the viewing mode from the **Shortcut Menu** using the mouse, you can also cycle through the modes using the up and down arrows on the remote or the side of the DVR. The left and right arrows on both the remote and DVR side panel will cycle through which channels are displayed.

In **Live View**, along with the channel(s), you will see the system date and time displayed along with the name and icons indicating the status of each channel. Setting the system date and time and changing the channel names is covered in **Section 4.3** under the **Settings** menu.

	Recording		Motion detected
	Video loss		Camera lock

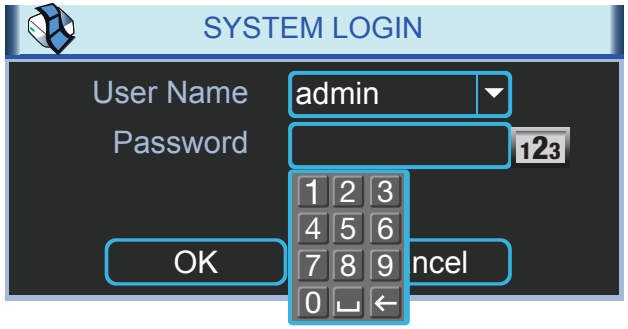
Digital Zoom

When the mouse cursor is in a channel display a white magnifying glass icon will appear in the upper left corner of that image. Clicking on this icon will add a blue check mark to it and you will be able to digitally zoom in on a section of the video feed by clicking and dragging to select the area. Right-click or uncheck the icon to return to normal view. This action can be performed in single or multi-screen viewing modes.

3.3 LOGIN, LOGOUT AND MAIN MENU

LOGIN

When the DVR starts up, the default video display is multiple window mode. Click **Enter** or click the mouse and the **System Login** screen will be displayed.



PICTURE 3-2

Using the mouse, front panel buttons or remote control, enter your user name and password. Whenever the cursor is over a text field, a keyboard icon will appear to the right. Clicking within the field itself will open the virtual keyboard as explained in **Section 2.3**. Clicking on the keyboard icon allows you to cycle between numbers, letters (upper and lower case) and symbols when appropriate.

Until new accounts are added, there are three types of pre-configured accounts available to users who log into the DVR:

- Administrator (local and network) Username: admin Password admin
- Local Administrator Username: 888888 Password: 888888
- User (can only monitor, back up and play back video)
  Username 666666 Password 666666

You must have access rights – whether as the system administrator or logged-in user – in order to change settings. See **Account** in **Section 4.4** for information regarding user accounts.

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IMPORTANT! It is highly recommended that you change your system password after you log on for the first time. Record your changes and keep that information stored securely as the system will prevent access if the incorrect login information is attempted three times within a 30-minute period. If you find yourself locked out of the DVR because of this, wait 30 minutes, reboot the DVR and attempt to log into it again.

Once you have logged in, the DVR will display one or more camera channels in Live View. How many channels are displayed will depend on how many cameras you have connected as well as what multi-view mode you have chosen.

After a period of inactivity – configurable in the **General Setting** submenu described in **Section 4.3** – the DVR will log users out. This will require the current user to re-enter their password.

MAIN MENU

After logging in, you can view – and access - the DVR's functions through the Main Menu.

There are six submenus available; **Search**, **Info**, **Setting**, **Advanced**, **Backup** and **Shutdown**. Clicking on an icon will take you to that function or the submenu it represents.

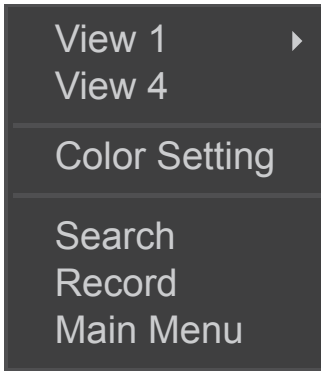
The **Main Menu** can be accessed at any time from the **Live View** by right-clicking the mouse and bringing up the **Shortcut Menu**. Pressing the **Return** button on the side of the DVR will also bring up the **Main Menu**.

PICTURE 3-3

SHORTCUT MENU

In **Live View** mode, right-clicking anywhere on the screen will bring up the **Shortcut Menu**.

This menu allows you to quickly change your viewing mode as well as moving directly to a selection of menus.



PICTURE 3-4

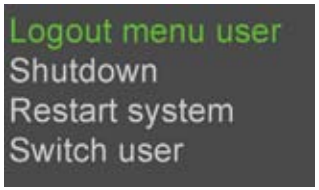
LOGOUT

Selecting the Shutdown icon in the Main Menu will open the Shut Down window.

This window allows you to choose to log out as a user, shut down the system, restart the system or switch users.

In addition, the DVR can also be shut down by pressing on the front panel power button for three seconds. The system will stop operating and it can then be turned off via the **Power** button on the rear of the DVR.

PICTURE 3-5



PICTURE 3-6

AUTO RESUME

In the event of a power failure, the DVR will automatically save any video files it is currently recording and will then resume scheduled operations once power is restored.

3.4 RECORDING

The DVR must be configured to record on a schedule, but you can start recording on any and all channels using the **Manual Recording** option. For information on how to set recording schedules and motion detection recording, please see **Sections 3.6 and 3.7**.

MANUAL RECORDING

This window allows you to override the scheduled recording times of selected cameras. You can access the **Record Menu** via the **Shortcut menu** or by pushing the **Record** button on the remote.

There are three status modes: **Schedule**, **Manual** and **Stop**. The status of each channel is shown by the filled circle under its number. Each camera can only have one status at a time. Changes take effect once the **OK** button is selected.

Manual – The selected cameras will begin recording

Schedule – Cameras record based on your settings made in the **Schedule Menu** or **Detect Menus** (**See Sections 3.6 and 3.7** respectively)

Stop – All selected cameras stop recording

You can assign the same values to all cameras by selecting the desired status in the "**All**" column.

PICTURE 3-7

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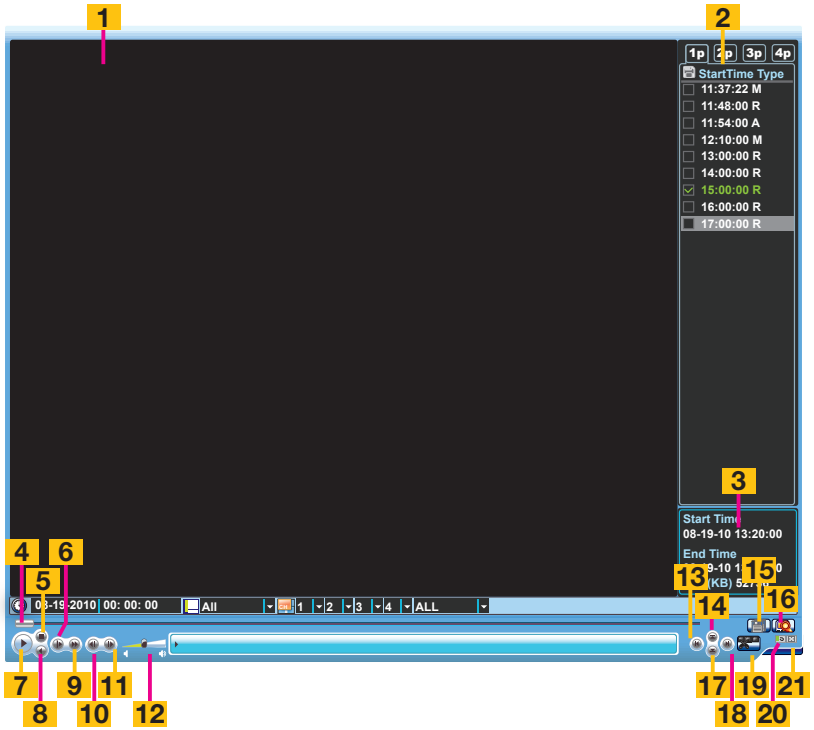
3.5 SEARCH AND PLAYBACK

The **Search and Playback** window can be accessed through the **Shortcut menu**. You can view the playback from any camera that was activate during the recording session.



PICTURE 3-8

Number	Function	Number	Function	Number	Function
1	Playback Window	8	Reverse	15	Backup
2	File List	9	Fast Play	16	Search
3	File Information	10	Previous Frame	17	Next Channel
4	Playback Progress Bar	11	Next Frame	18	Next File
5	Stop	12	Volume	19	Video Clip
6	Slow Play	13	Previous File	20	Repeat Playback
7	Play	14	Previous Channel	21	Full Screen

The playback screen can be set to display the recordings from one camera or as many channels as you have.

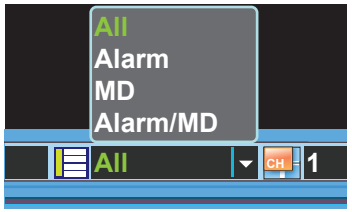
SEARCH

To begin a search for an event:

STEP 1. Enter the date to be searched. You can also click on the clock icon to open the Calendar. Highlighted dates have recorded files.

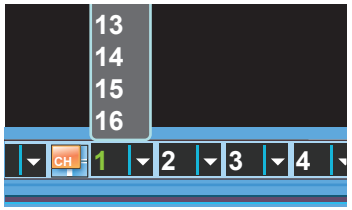
PICTURE 3-9

STEP 2. Enter the start time (if known) or skip this field to search the entire day. Select the type of event; **All**, **Alarm**, **Motion Detection (MD)** or both **Alarm and Motion Detection**.



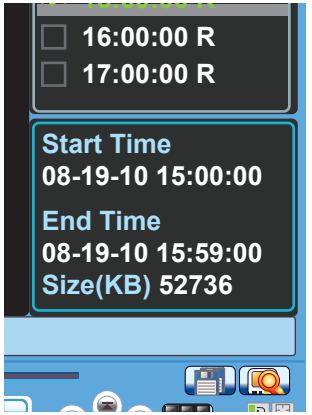
PICTURE 3-10

STEP 3. Select which channels you wish to view. Each of the four slots is a pull-down which allows you to select a specific channel. You can leave these empty to view 1-3 channels. You can also choose to view four channels at a time or all channels (8 or 16 depending on model) simultaneously.



PICTURE 3-11

STEP 4. Click on the Search icon and any records fitting your criteria will be listed in the column to the right of the screen. Up to 128 files can be displayed and multiple tabs (pages) may be displayed in the search results depending on the number of cameras you have as well as how you configured your playback display. In the event that a camera is set to manually record, the events will be broken up by hour.



PICTURE 3-12

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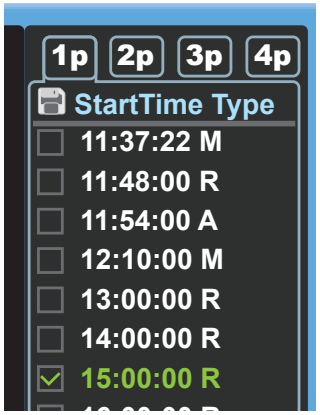
Files will be listed by their start time. In addition, when the DVR records a file, it also indicates the type of recording and it will indicate this one-letter code after the file name.

R = Regular recording

A = External alarm triggered recording

M = Motion detection triggered recording



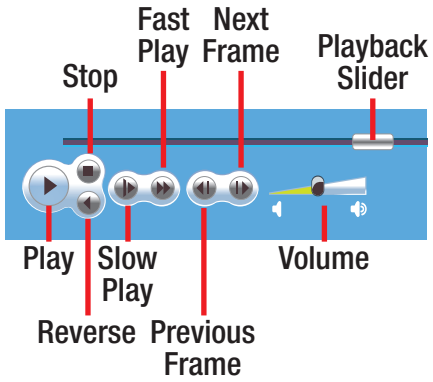
PICTURE 3-12

PLAYBACK

Once you've run your search, you may select which videos you wish to review.

Start, Stop and Play

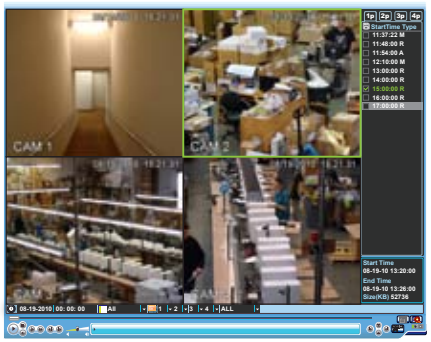
Double-click on the desired video file and playback will begin. The playback controls operate as with a normal DVD player or computer media player with pause, rewind, etc. In the case of multiple views, the channel with the green outline around its video is the one that is being controlled. You can switch between channels by clicking on the one you wish to control.



PICTURE 3-12

While all channels will display video from the same event, individual playbacks can be controlled separately. A single channel can be paused, rewound or sped up without affecting the playback of other channels.

Selecting the **Stop** button will end playback of that channel while the others (if any) continue to play back. To end playback on all channels, simply right-click the mouse or move to another file using the buttons to the right of the playback bar.

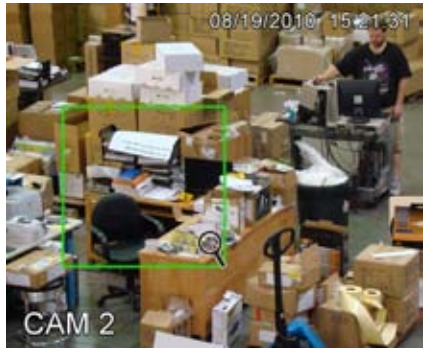


PICTURE 3-13

Zoom

In multi-screen playback, you may click on a channel to bring it to full-screen view. Double-clicking the screen again will further enlarge the screen and remove the playback bar. Double-clicking a third time will return you to the multi-screen mode. You can also step backwards in the process by right-clicking.

At any time, you can zoom into a recording by clicking and dragging the mouse. This will draw a green-outlined rectangle on that screen and the cursor will change to a magnifying glass. Click within the area you've selected to zoom in, or click outside to dismiss or re-select the area.



PICTURE 3-14

In the case of a multi-screen viewing mode, the zoomed in section will fill only that portion of the screen occupied by that channel until you double-click on it at which time it will expand to fit the screen. Double-clicking again will further enlarge the view and remove the playback bar as above. Right-clicking the mouse will return you to your previous mode of viewing.

Video Clip

This allows you to save only a portion of a video clip. For example; if you have a camera set to record all the time and it captures some action in a five-minute segment, you can clip only that portion and back it up. In addition to making an incident readily available, saving only the portion of interest will reduce the amount of disk space needed to back it up.

STEP 1. Select a file to view in the normal manner.

STEP 2. Find the section of interest and press the **Clip** button

STEP 3. Drag the playback bar to the end of the section and press the **Clip** button again.

STEP 4. Press the **Backup** button to save the file to a USB drive connected to the USB back-up port on the side of the DVR.

PICTURE 3-15

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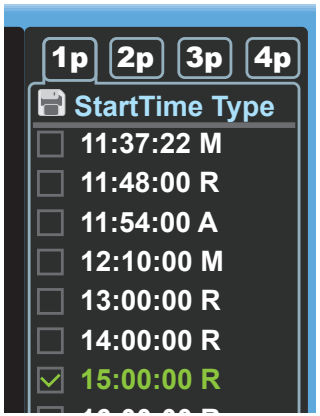
Back-up

Individual files recorded by the DVR can be backed up to an external USB device for playback on a computer.

You must have a USB device connected to the USB port on the side of the monitor before proceeding.



PICTURE 3-16

STEP 1. In your file list to the right of the playback screen, check the box next to the file(s) you wish to save.

STEP 2. Select the BACKUP icon and the Backup window will open. Your device will be listed at the top of the window showing how much space is available. Below it, the list of file(s) you wish to back up will be displayed along with type, start and end times and size. At the bottom of the window, the space required to save the file(s) will be displayed. You may uncheck any files you do not wish to back up at this time. The Remove button will remove all the files from your list.

STEP 3. Press start to back up your selected files.

Right-clicking the mouse will exit this window without saving the files.

More information about backing up files – including backing up the entire hard drive – can be found in **Section 3.8**.

NOTE! The video files are in a proprietary format that will not play outside the DVR without being converted to .avi format using the included General Player software included on the Manuals and Software disc that came with this DVR or available for free download at Q-See.com by searching for your model number and looking under Software.

Right-clicking with the mouse will exit the playback window.

3.6 SCHEDULE

The **Schedule** menu is located in the **Settings** menu and it allows you to determine when your cameras will record and under what circumstances. While the settings in this menu can be generally overridden by the user in the **Record** menu, the settings made in the **Schedule** menu are more detailed and flexible.

NOTE! The menu will show the option to record based on Alarm notification. This feature is not available on this model and cameras set to record using this setting will not be activated.

PICTURE 3-17

Channel – The first setting is which channel you wish to configure. In addition to selecting a channel number, you can globally configure all of your cameras by selecting the **All** option.

Week Day – You can set the recording schedule by day of the week, or apply the schedule to every day.

Pre-Record – This allows you to capture the moments before an event occurs. You can set the lead time from 1 to 30 seconds depending on the bit stream you are recording at.

Snapshot – By selecting this feature, you enable the DVR to take a still image "snapshot" when an alarm occurs. The number of snapshots taken, their format and other parameters are set in the **Encode** menu. (See **Section 4.3** for details.)

Record Types – You can schedule which type of recording occurs at what time of the day. There are six blocks of time that can be scheduled, and the duration of those blocks can be determined as well. There are two types of recordings that can be made; **Regular** (always recording) and **MD** (motion detection).

A white-filled box underneath a **Record** type indicates that it has been selected for that block of time. If no boxes are selected, that camera will not record although you will be able to see its video feed in **Live View**.

You may set more than one type of recording to occur at the same time but it should be noted that when regular recording is selected, the DVR will be already be recording whether a Motion Detection event occurs or not.

NOTE! Motion Detection can also be set up in the Detection menu as described in **Section 3.7**. If you need the DVR to do more than just record Motion events, then follow the instructions in **Section 3.7**. You do not need to set up motion detection in both menus.

Default – Returns your DVR's recording settings to the factory default of recording all the time.

You must check the **Save** button to apply your settings. Right-clicking or hitting **Cancel** will leave your settings unchanged.

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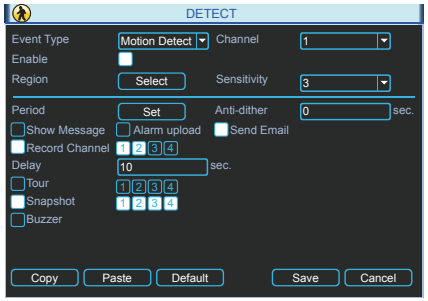
3.7 MOTION, VIDEO LOSS AND CAMERA MASKING DETECTION

The **Detect** menu is a submenu of the **Setting** menu and contains the Motion Detection settings in addition to those for Video Loss and Camera Masking. Each channel can be individually configured to respond to each event as you chose, or you can give all cameras identical settings.

The upper portion of this window is for setting the type of event, whether it is activated, and specific parameters relating to event detection. The bottom portion of this window allows you to choose how the system will respond to these events.

MOTION DETECTION

With the **Event Type** drop-down set to Motion Detect, you can configure your DVR to record when someone or something moves through a camera's field of view. Please note that this is an alternate way to schedule motion detection to the method laid out under **Schedule in Section 3.6** but it offers further refinements including what actions the DVR will take when motion is detected. You do not need to set up Motion Detection in both sections but the DVR will use the schedules from both menus to determine when to record Motion events.



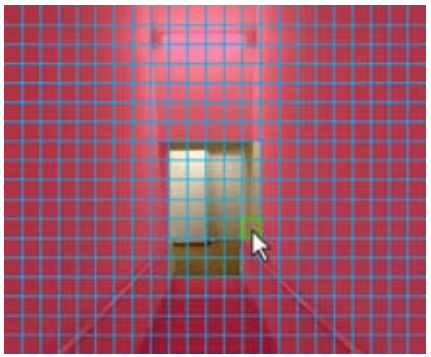
PICTURE 3-18

Channel – You can select an individual channel to configure or select **All** to give all of your cameras the same settings. You must have set that channel to record motion detection in the **Schedule** menu as described in the previous section.

Region – Clicking the **Region** button will bring up a grid overlaying that camera's view.

By default, each "block" of the grid will have a red hue indicating that it is sensitive to motion detection. Clicking in a block will make it clear meaning that motion detection has been turned off for that area. Turning off motion detection in selected areas is useful for situations when there is frequent movement by inanimate objects such as flags or wind-blown trees and this will reduce false alerts. You can click and drag the mouse to turn off multiple blocks at the same time and you can deactivate motion detection in multiple, separate, areas of the screen.

To reactivate motion detection, simply repeat the process in the deactivated blocks and they will regain their red hue and detect motion as normal.



PICTURE 3-19

You cannot use Copy/Paste in **Motion Detection** because each channel will have a different display. Right-clicking will exit the screen and your settings will be saved.

Sensitivity – The system supports six levels of sensitivity with Level 6 being the most sensitive.

VIDEO LOSS

By default, this is enabled. In the event that the DVR detects a loss of signal from a camera, it will send out a notification or activate other functions based on your settings in the lower portion of the **Detect** window.

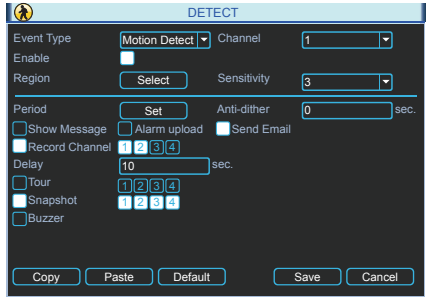
CAMERA MASKING

This is also enabled by default. If the system detects that something has covered a camera, it will respond based on your settings in the lower portion of the window.

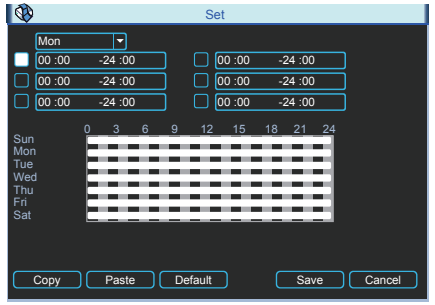
EVENT RESPONSE

The lower portion of the **Detect** window determines what actions the DVR will initiate upon detection of one of the three event types. Responses to a specific type of event can be individually tailored to each camera, but the response to different types of events must be set independently of each other. (ie: The response settings for a motion detection event do not change the settings for a video loss event – even if you've set identical responses.)

Period - This is where you set the schedule of when you want the DVR to record motion events. It operates in the same manner as the Schedule menu as described in **Section 3.6** with six blocks of time that can be laid out for recording to occur during a day. Not all blocks have to be configured or enabled. You can configure each day individually, or you can make separate schedules for week days and weekends.



PICTURE 3-20



PICTURE 3-21

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The **Set** button will appear when either **Work Day** or **Free Day** is selected in the drop-down. This allows you to arrange the schedule to reflect your business' weekly schedule.

PICTURE 3-22

The **Copy** and **Paste** buttons allow you to duplicate a day's settings on another day while the **Default** button returns the DVR to recording Motion Detection events 24/7.

Once you have made your settings, select **OK** to save them and you will be returned to the **Detect** menu. Hitting **Cancel** or right-clicking to exit the menu will not save your changes.

Anti-Dither – This is the length of time that the DVR will delay before recording a motion event. The delay can be from 0 to 600 seconds.

Latch – This is the "hold time" that the system waits after a motion detection event ends before resuming motion detection searches. The delay can be set from 10 to 300 seconds (5 minutes).

Show Message – When this is enabled, the system will bring up the **Alarm Status** window whenever an event is detected. You can configure this to display when motion, video loss or masking is detected.

Send E-mail – E-mail notifications can be sent a single e-mail address. Please see **Advanced Network Setup** in **Section 1.2 of the Remote Monitoring Guide** for instructions on how to set up the e-mail alerts including recipient address.

Record Channel – When one camera detects an event, you can set the DVR to activate recording on other cameras.

Tour – This will cause the DVR to cycle through selected channels on the display in live view. It will not affect what is recorded.

Snapshot – The DVR is capable of taking still images which can be sent via e-mail or FTP (See **Advanced Network Setup** in **Section 1.2 of the Remote Monitoring Guide** for full instructions.)

3.8 BACKUP

This DVR supports backing up files from the hard drive to both an external USB storage device as well as over a network. Network downloads are covered in the **Remote Monitoring Guide**. The USB port on the front of the device is the only port usable for backing up files.

The **Backup** menu can be reached through the Main menu.

PICTURE 3-23

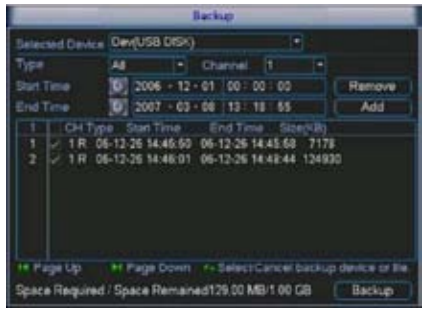
The **Backup** window will display any connected devices along with available space and status. If you have a device connected to the USB port on the side of the DVR and it does not appear, press the **Detect** button. If it still does not appear, then use a different USB device.

PICTURE 3-24

IMPORTANT! USB hard drives must be formatted as FAT 32.

Once an external USB device is detected, pressing the **Backup** button will open a new window allowing you to select which files to back up. You can select by channel, start and end times, as well as which type of event; regular recording, alarm, motion detection or all of them.

Only files with a check mark in front of them will be backed up. You can deselect whichever files you choose or select them all by selecting the box at the top of the list.



PICTURE 3-25

If you need to clear space on your external drive, you can use the **Erase** button. This will delete **ALL** files on that device.

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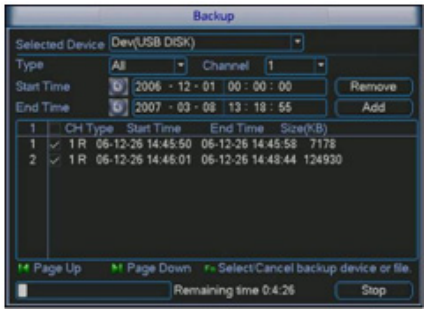
Once you have selected the files, press **Start** to begin the download. A progress bar will be displayed showing estimated time remaining. During the download, the **Start** button will change to **Stop**. You can stop the process at any time by pressing the button again.

You can also right-click out of the menu once the file transfer has begun to go on to other activities without cancelling the download.



PICTURE 3-26

The files will be saved with the following naming format:

SN_CH(channel number)_TYPE_TIME(Year, Month, Date, Hour, Minute, Second)

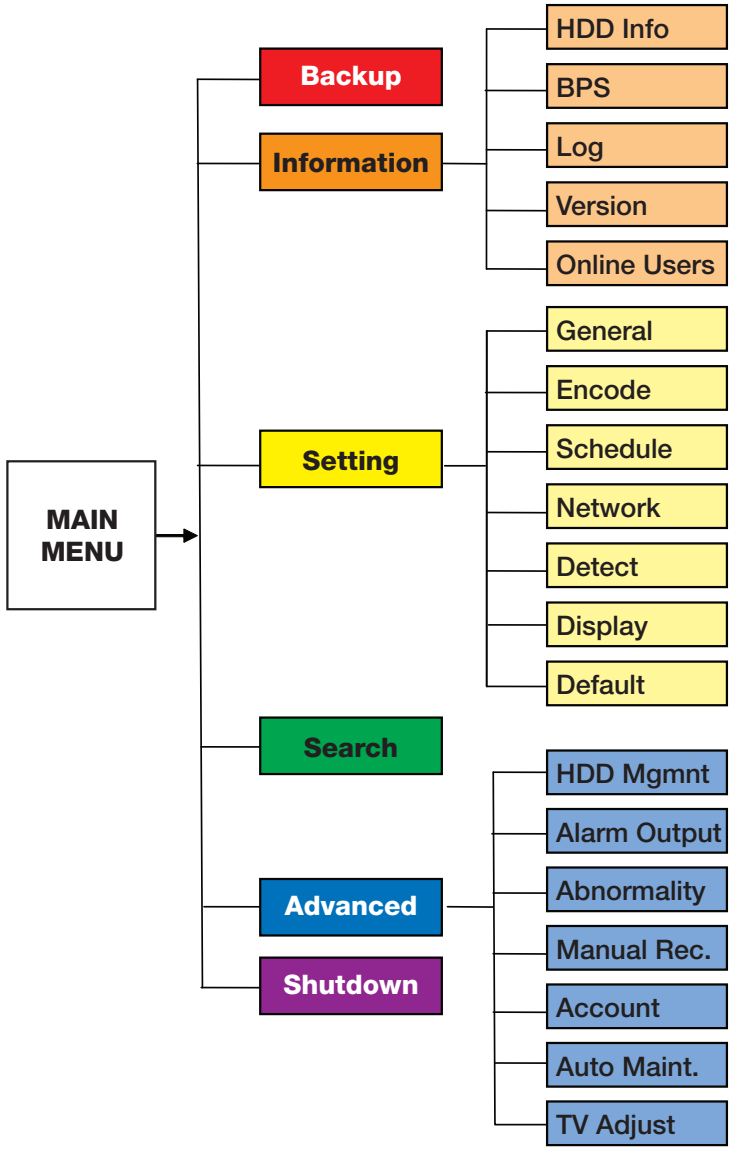
Therefore, a file shown on the DVR as being a regular record (R), being recorded on 01/04/11 starting at 2:00:00 would have a file name of:

1_01_R_010411020000.dav

The Year Date Month format is the same as you have set in the **General** interface. The files can be played back using the software included on the CD accompanying this DVR.

MENUS

Once you're ready to move beyond basic operation, the other menus in the system will allow you to configure the DVR to your individual needs.



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4.1 MAIN MENU

The **Main Menu** can be accessed at any time from the Live View by right-clicking the mouse and bringing up the **Short Cut Menu**. Pressing the **Return** button on the side of the DVR will also bring up the **Main Menu**.

There are six submenus available; **Search**, **Info**, **Setting**, **Advanced**, **Backup** and **Shutdown**. Clicking on an icon will take you to that function or the submenu it represents.

The **Search** menu is covered in **Section 3.5 Search and Playback**.

PICTURE 4-1

4.2 INFO MENU

Double-clicking on the **Info** icon will open the Info window. There are five items: **HDD** (Hard Disk Drive) **Info**, **BPS** (data stream statistics), **Log**, **Version** and **Online Users**.

PICTURE 4-2

HDD INFORMATION

This window displays information on the type, size, available space and status of the system's internal hard drive.

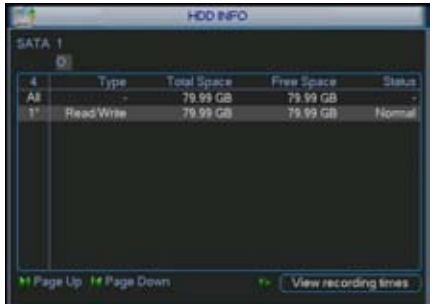
The system supports a single SATA hard drive and it will be designated SATA 1. Below the drive name is the drive status indicator.

"O" Drive is operating normally.

"X" Indicates an error

"-" Hard drive not installed

"?"Hard drive is damaged



PICTURE 4-3

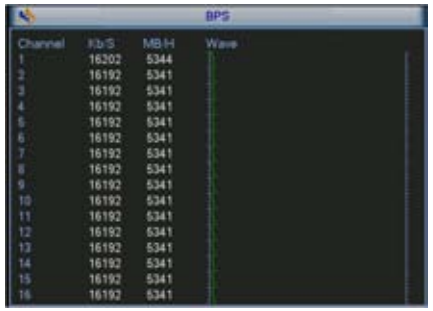
In the case of a hard drive error, the system will come directly to this menu. An error may be indicated if the hard drive time and system time do not match. To resolve this issue, adjust the time in the **General setting** menu located in the Setting menu (See **Section 4.3**) and restart the system. Formatting the drive, using **HDD Manage** as described in **Section 4.4 Advanced** is another possible solution to drive errors.

If the drive is damaged or missing, you will need to install a drive. Please see **Chapter 5** for hard drive installation instructions.

Select **View Recording Times** to show files recorded on the DVR.

BPS

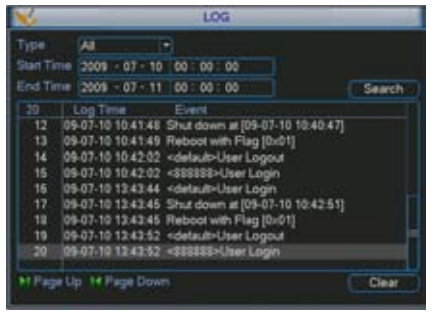
This window shows, in real time, the video data stream for each camera in kilobytes per second (KB/s) as well as the amount of space each camera is writing to the hard drive in megabytes per hour (MB/h). The green lines for each camera will progress from left to right.



PICTURE 4-4

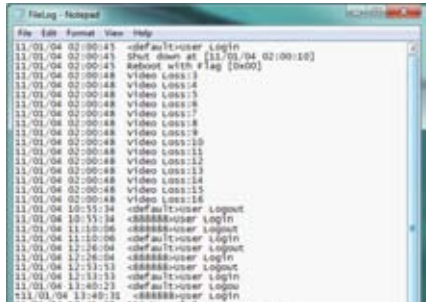
LOG

Any activity on the DVR is logged and recorded on the system. This information can be viewed and searched from this window.



PICTURE 4-5

Information on user access, system shutdowns, changes in recording status, video loss and etcetera are listed. You can search for activity in a similar manner to the file search. This information can be backed up to an external USB drive and it will be saved as a text document.



PICTURE 4-6

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VERSION

This display shows system hardware and firmware specifications.

The hardware data shows the number of channels the system is configured for along with the number of alarms in and out that can be utilized. The system's serial number is also displayed, along with the version and build date of the firmware.

VERSION
Channels 16
Alarm In 16
Alarm Out 3
System 2.606.0000.0
Build Date 2009-06-18
UPGRADE
If you need to upgrade system now,please insert USB upgrade disk,then press the start button to start upgrade.Don't shut down the power during upgrade!
Start

PICTURE 4-7

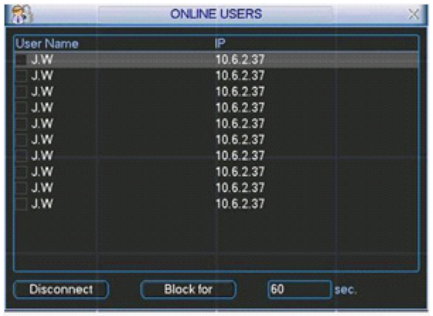
You can update the firmware using this menu. Check your product's page at ***www.Q-See***.com to see if you have or need the latest version of the firmware. If your system is operating without problems, we recommend that you do not update the firmware unless there is an added feature that you need. To update the firmware, you must download the file from our website and save it onto a removable USB drive that is otherwise empty. Connect the USB drive to the port on the right side of the DVR and press **Start**.

ONLINE USERS

A list of users accessing the DVR from over the network or through the Internet is shown in this menu.

The user's name as well as the IP address used to access the DVR is displayed.

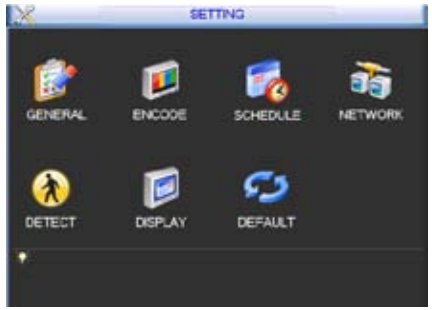
If you have proper system management rights (Configured in **Account**, See **Section 4.4 Advanced** for full instructions), you can disconnect or block a user. The maximum time a user can be disconnected is 18 hours (65,535 seconds).



PICTURE 4-8

4.3 SETTING MENU

Double-clicking on the Setting icon will open the Setting menu window. A total of ten interfaces are available through this menu and they contain most of the functions needed to configure your DVR. Additional settings are available in the **Advanced** menu covered in **Section 4.4**. In addition to **Schedule** and **Detect**, which were covered in **Chapter 3**, available interfaces are: **General**, **Encode**, **Network**, **Display** and **Default**.



PICTURE 4-9

GENERAL

This window is where the basic settings for the DVR are configured. Your settings will only be saved if you click the Save button before exiting the window.

System Time – The date and time

Date Format – Choose from Year-Month-Day, Month-Day-Year or Day-Month-Year

Date Separator – The three options are a dot (.), dash (-) or slash (/)

Time Format – Chose between 24-hour (military-style) or 12-hour (AM/PM) formats

Language – The system currently supports English or French. The system will need to be restarted for the language change to take effect.

PICTURE 4-10

HDD Full – Depending on the number of cameras recording, the size of your hard drive, how many cameras are recording and how often, image quality and other factors, your DVR's hard drive can be completely full of recordings in one to four weeks. When it is full, the DVR will stop recording unless you set it to overwrite older files.

IMPORTANT! The overwrite features should be enabled before you begin recording or the DVR may not delete files created before that point. If this occurs, reformatting the hard drive will fix the situation.

WARNING! Overwritten files can not be recovered. Important files should be backed up onto another device to prevent loss.

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Pack Duration – Rather than creating 24-hour long files when a channel is set to record all the time, this allows you to set the maximum record length between one to two hours (measured in minutes).

DVR No. – If you are controlling more than one DVR with a single remote, this allows you to give each DVR a separate numerical ID.

Video Standard – This DVR operates using the NTSC standard common to North America.

Auto Logout – This sets the duration of inactivity before the DVR will automatically log a user out of the system.

Snapshot – When you enable snapshots in the Schedule menu (Section 4.6), this determines how much time will pass between snapshots. You can set the interval from 1 to 600 seconds (10 minutes).

DST – In order for your DVR to adjust to Daylight Savings Time automatically, you should enable the function and then set whether DST begins and ends in your region based on a variable date such as the last Saturday of a particular month or a specific date.

PICTURE 4-11

PICTURE 4-12

IMPORTANT! You **MUST** stop all recording before changing the date or time.

ENCODE

This window allows you to manage the quality of the recording from each channel as well as the transmission rate and whether there's an accompanying audio feed.

As with other windows described earlier, each channel can be set individually or all at the same time. Settings can be copied from one channel and pasted to another. Only by hitting **Save** will your settings be retained. Right-clicking or hitting **Cancel** will leave the system with your previous settings.

The system is configured to record using the H.264 format and this cannot be changed.

In addition to the settings for display on the DVR, you can also adjust the settings for the sub-stream display, referred to as **Extra Stream 1** in this window. This stream is the data that is sent to remote monitoring devices. Due to bandwidth concerns, these data streams are generally smaller than those sent directly to the DVR itself. These streams run in parallel with the main stream sent to the hard drive and they do not affect each other.

PICTURE 4-13

Resolution – This system supports the D1, CIF or QCIF recording format. D1 is equivalent to full TV resolution at 704x480 pixels and offers the best resolution at the cost of taking up the most disk space. CIF is roughly one-half the resolution of D1 at 352x240 and correspondingly takes up less room on the drive. QCIF is smaller still at 176x120 pixels.

The Extra Stream can only use the QCIF resolution.

Frame Rate (FPS) – Variable between 1 to 30 frames per second. The higher the number, the smoother the playback.

NOTE! Generally, the trade-off for higher quality and increased frame rate is the amount of room a video file will take on the drive along with how much "bandwidth" the signal takes up within the system. This system cannot record with all channels set to maximum resolution and frames per second and it will limit you to one channel set at D1 recording at 30FPS with all other channels either being limited to CIF at 30FPS or less, or D1 with a maximum frame rate of 7FPS.

Bit Rate Type – Variable Bit Rate (VBR) versus Constant Bit Rate (CBR). VBR provides better compression, but issues may arise when streaming for remote viewing.

Quality – Only enabled when VBR is selected, this can be set from 1 to 6 with 6 having the highest image quality.

Bit Rate (KB/S) –Configurable from 192 to 1024 kilobytes per second, this is the maximum bit rate the selected channel can utilize. Your network may not have enough bandwidth to handle maximum rates from all of your cameras. Adjusting these settings to suit your network will improve performance and on-screen image quality.

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Audio/Video – Selecting this box adds an audio feed (if you have a microphone located at or near the camera). On the Extra Stream, you can enable the Audio (first box in that column) only if the Video box is also toggled.

Overlay – This window allows you to mask off areas from view. This is useful in circumstances such as when a camera's field of view includes a combination lock or other similar situation.

You can mask up to four areas in each camera's field of view in two modes. Preview mode blocks the area for both local and network viewers. Monitor allows the local user to view the area but remote viewers cannot see the area. These privacy blocks affect both the live view and playback. You can select either or both allowing you to block selected areas for one set of viewers but not others.

PICTURE 4-14

Clicking any of the numbered boxes will create a black area in the upper left corner of the screen. If you select more than one, they will all be located in the same place. Clicking on the **Set** button will hide the **Overlay** window and give you a view of that camera's video feed along with the black box(es). The active box will be outlined in green and you can switch between boxes by clicking on another one. Each box will have its number inside. It can be moved and sized as needed using the mouse. Right-clicking on the screen will return you to the **Overlay** window.

PICTURE 4-15

Time Display – This allows you to display the system time on the channel's screen during playback or not. In addition, by clicking the **Set** button, the time display can be relocated anywhere on the screen by clicking and dragging. A "Before" and "After" example is shown in **Picture 4-16**.

PICTURE 4-16

Channel Display – Like time display, this toggles the appearance of the channel's number on the screen during playback as well as allowing it to be repositioned in a similar fashion.

SNAPSHOT

In addition to taking video of an event, the DVR can be set to record - and transmit - still images from whichever cameras you select in the **Schedule** and **Detect** windows which are covered in **Sections 3.6** and **4.7** respectively.

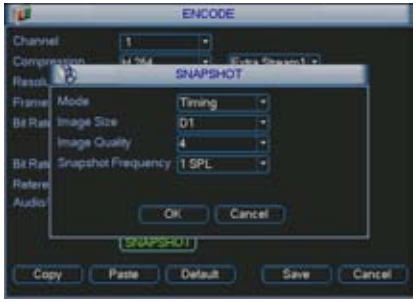
The actual settings for the Snapshot feature are configured in the **Snapshot** window which can be opened by pressing the **Snapshot** button in the **Encode** window.

Mode - You can chose to have each camera take a snapshot based on **Timing** or Trigger

Image Size - **D1** produces an image twice the size of **CIF** . You can chose to use a different format for snapshots than the format that camera is configured to record video.

Image Quality - With a range of 1 to 4, this controls the quality of the snapshot(s). A setting of "4" provides better images, but at an increased file size. You may have to lower the quality if the file size exceeds your e-mail in-box's capacity.

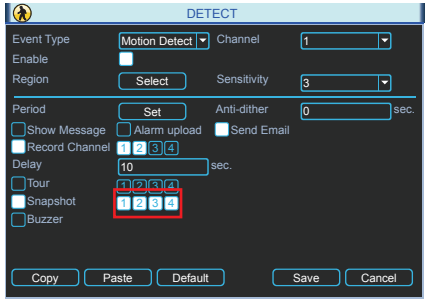
Snapshot Frequency - This will allow you to take 1-7 shots in sequence.



PICTURE 4-17

PICTURE 4-18

Each camera can be individually configured. These settings are what will be used when you enable the **Snapshot** feature in any window that offers that option. Examples are highlighted with Red Boxes in **Pictures 4-18** and **4-19**.



PICTURE 4-19

NOTE! It is possible to have the Snapshot feature set to occur both on schedule and when triggered by an event such as Motion Detection. The triggered activation will take priority over the scheduled event.

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SCHEDULE

This is covered in **Section 3.6 Schedule**

NETWORK

Accessing the DVR from within a Local Area Network, over the Internet or via a Smartphone along with setting up e-mail notifications and other online features will be covered in full in the **Remote Monitoring Guide** included on the CD that came with your DVR or available for download from ***www.Q-See.com.***

DETECT

Please see **Section 3.7** for instructions on using the features in this window.

DISPLAY

This window contains the settings that control the Graphical User Interface (GUI) as well as how you view the DVR.

Transparency – You can choose to make the menu screens more transparent or opaque with 128 being the most transparent and 255 being completely opaque.

PICTURE 4-20

Channel Name – You can name each channel - up to 25 characters. An example is naming the channels based on where they're located.

PICTURE 4-21

Time Display and **Channel Display** – These buttons enable their respective displays on the video during playback.

Resolution – There are five pre-set options; 1366x768 (default), 1280x1024, 1280x720, 1024x768 and 800x600. The DVR will need to reboot in order for these changes to take place.

Enable Tour – Selecting this box will cause the screen to cycle through displaying channels selected in the following fields.

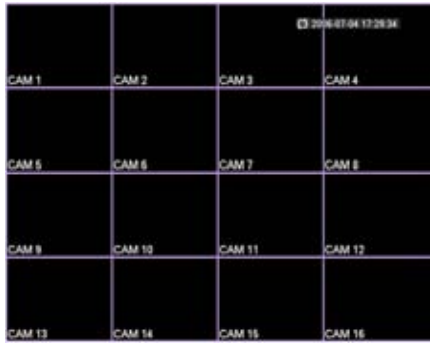
Interval – This is the time – from 5 to 120 seconds – that the DVR will display each group of channels before moving to the next group in the tour.

View – These are the number of groups available in each tour. Deselecting a number means that this group of channels will be skipped during the tour.

Motion Tour Type – If a motion detection event occurs, and the Tour button is selected in the Detect window (**See Section 3.7**) the DVR will switch a single-screen view tour or an eight-screen view tour displaying the channels that were selected in that menu.

In Tour mode, you will see an icon in the upper right corner of the display which allows you to control the tour by right-clicking upon it. Clicking upon the icon will cause the tour to start or resume.

	Window switching mode enabled
	Window switching mode stopped

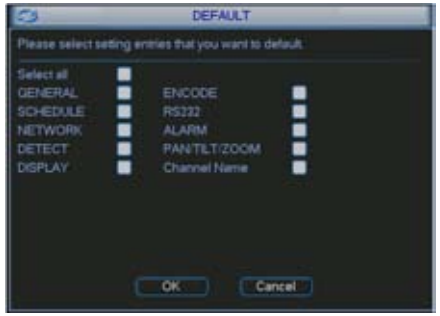


PICTURE 4-22

DEFAULT

The options in this window will allow you to return various settings back to their default configuration.

The settings that will be changed are self-explanatory.



PICTURE 4-23

WARNING! Language, time display mode, video format, IP address, and user account will not retain your settings after being reset back to default values!

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4.4 ADVANCED

The settings in this menu cover user accounts, hard disk management, video display, and system maintenance.

PICTURE 4-24

HDD MANAGE

This displays some of the same information found in the **HDD Info** window in the **Info** menu (see **Section 4.2**) but this window allows you to make additional settings.

The drive name and status is displayed.

The status indicators are:

O	Drive is operating normally.
X	Indicates an error
-	Hard drive not installed
?	Hard drive is damaged

PICTURE 4-25

Clicking on **Alarm Set** opens the **Abnormality** window which is covered immediately following this section.

Alarm Release – this turns off any disk alarm that may be occurring.

You can set the hard drive to four states:

Read/Write	Normal operation. The device records (writes) files to disk and plays (reads) them.
Read Only	No more files can be recorded onto the drive, but existing files can be viewed.
Format	Reformats the hard drive.
Recover	If you are having problems with the hard drive, including corrupted files, selecting Recover causes the drive to re-set, but does not erase its contents.

CAUTION! Reformatting the hard drive will erase all recorded events.

No changes will take place unless the Execute button is pressed once you've made your selection. The drive's status will be displayed next to the Type heading below the pull-downs. If you make changes and press **Execute**, the DVR will restart once you press **OK** to exit. You cannot right-click out of the menu.

ABNORMALITY

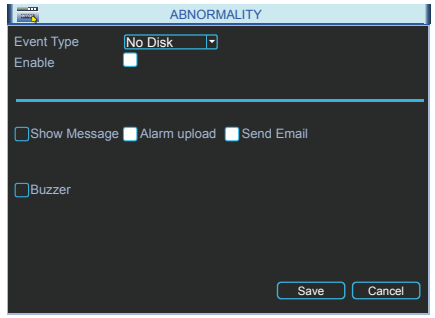
This window allows you to set up alarms for disk and system disconnection errors as well as how these alarms are handled. Each type of alarm can be independently enabled along with what events that type of alarm will trigger.

Event type – Chose from No Disk, Disk Error, Disk No Space, Net Disconnected and IP Conflict.

Latch – This is the "hold time" that the DVR will wait before issuing another alarm. The delay can be set to between 1 to 300 seconds (5 minutes).

Show Message – When enabled, this will display the event notification on the DVR's screen.

Alarm Upload – This feature is not available on this model.



PICTURE 4-26

Send E-mail – this will send an e-mail notification to the recipient address set up in the **Network** menu (see **Section 1.2 Advanced Network Setup** in the **Remote Monitoring Guide**).

RECORD

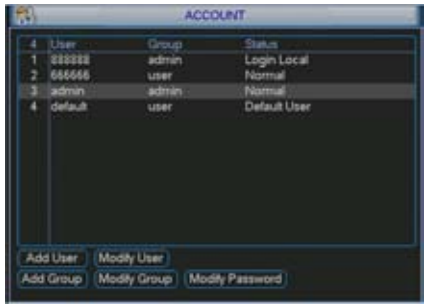
This is the **Manual Recording** window covered in **Section 3.4**.

ACCOUNT

This is the account management window which allows you to add or delete users, create user groups, modify the access privileges of users, and create or change passwords.

There are three pre-configured default users; Admin, 888888 and 666666. The first two have administrator rights.

When adding a user, you not only create their user name and password, but you can grant or deny control over specific activities on the DVR, including which cameras that user can view or play back. These privileges can be changed later by an administrator-level user using the **Modify User** button. Administrator Users have control over 60 different functions while basic Users have 35 functions that can be allowed or denied.



PICTURE 4-27

A user or group name can consist of at most eight characters and no two users may have the same user name. There is no limit to the number of users or groups.

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The **Memo** field allows you to include a note about the user or group that is only visible in this window.

Toggling the **Reusable** box allows more than one user to log in using this account

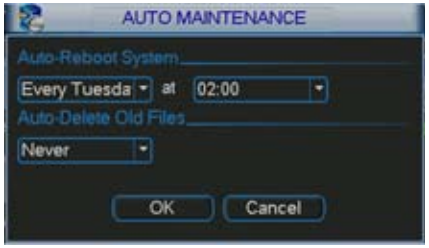
Creating a group gives you the ability to set the access privileges for as many users and any users' rights cannot exceed that of the group they are in.

Selecting **Modify Password** opens a new window which allows you to select the user whose password you want to change. Enter the old password and then the new password twice.

AUTO MAINTAINENANCE

Much like a regular computer, this DVR benefits from being restarted after extended periods of operation.

You can determine when the system will automatically reboot and you can optionally have it auto-delete old files at that time as well. You can set this option to delete files that are 1-31 days old.



PICTURE 4-28

TV ADJUST

This control is for use if you have an external TV monitor connected to the Video Out. It allows you to adjust the picture on the television to allow the display to fit the margins of that screen.

PICTURE 4-29

4.5 BACKUP

This window was covered in **Section 3.8 Backup**

4.6 SHUTDOWN

This is the preferred method to use when shutting down the DVR.

When this window is opened, you have the option of logging out as a user, switching the user, shutting down the system or restarting it.

PICTURE 4-30

HARD DISK DRIVE

CHAPTER 5

Your DVR uses a standard desktop computer SATA (Serial Advanced Technology Attachment) hard disk drive and will support up to a 2TB (terabytes) drive. These drives are the current industry standard and may be purchased wherever computer parts are sold. Depending on where you purchased your DVR, it may come with a pre-installed drive. But, we recognize that you may wish to upgrade or replace your drive in the future so this DVR is designed to make installation and replacement easy for the average user.

It should be noted that while this is the only user-serviceable part within the case and you will not void your warranty by installing or upgrading your hard disk drive, care must be taken to avoid damage to the other components within the case.

WARNING! ELECTRIC SHOCK RISK!

The DVR **MUST** be unplugged from all power sources as well as from the cameras before opening the case. Failure to do so can result in damage to the DVR or its components as well as injury or death.

5.1 INSTALLATION/REMOVAL

It is strongly advised against opening the case when atmospheric conditions present the risk of static discharge which can damage electronic components.

Whether installing the drive for the first time or removing the old one to install a new one, the steps are largely the same:

STEP 1. Disconnect the DVR from the power source as well as any other connections.

PICTURE 5-1

STEP 2. Loosen the cover screws on the rear and side panels.

PICTURE 5-2

STEP 3. Insert four screws into the mounting holes on the hard drive. DO NOT fully tighten, but give three twists each.

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PICTURE 5-3

STEP 4. Line up hard drive mounting screws with mounting holes at the bottom of the DVR and slide the hard drive to move the screws to the narrow part of th e holes.

PICTURE 5-4

STEP 5. Carefully turn DVR over taking care not to allow the drive to slide out.

PICTURE 5-5

STEP 6. Tighten the mounting screws firmly.

PICTURE 5-6

STEP 7. Flip the DVR right side up and connect the data and power cables to the hard drive.

PICTURE 5-7

STEP 8. Replace the cover onto the DVR.

PICTURE 5-8

STEP 9. Secure the screws in the rear and side panels.

5.2 CALCULATING THE RECORDING CAPACITY OF A HARD DISK DRIVE

While the physical data capacity of a hard drive is fixed, how much video you can record upon it depends on your recording configurations. Higher quality recordings will take up more space on the drive and setting the DVR to record for more frequently will fill it up more rapidly.

To determine the optimal capacity for your purposes, the chart below to estimate the size of hard drive that you'll need.

VIDEO FORMAT	RESOLUTION	FRAME RATE (FPS)	VIDEO QUALITY	BIT RATE (kbps)	SPACE USED (MB/h)
NTSC	CIF	30	Highest	1M	465
			Higher	768k	297
			Medium	512k	230
			Low	384k	173
			Lower	256k	115
			Lowest	128k	56
	D1		Highest	2M	910
			Higher	1.5M	712
			Medium	1M	468
			Lower	768K	297
			Lowest	512K	241
PAL	CIF	25	Highest	1M	466
			Higher	768k	295
			Medium	512k	235
			Low	384k	175
			Lower	256k	112
			Lowest	128k	56.4
	D1		Highest	2M	915
			Higher	1.5M	700
			Medium	1M	465
			Lower	768K	297
			Lowest	512K	241

The formula for calculating the required disk space is:

Total Recording Capacity = Used space per hour (MB/h) x Recording time (hour) x number of channels

Example: A customer is using the NTSC format (30 frames per second), CIF resolution with video quality set to Lowest and a total of 16 Channels. He wants the unit to record continuously for a month. Therefore, the calculation will look like this:

56(MB/h), x 24 (hours/day) x 30 (days) x 16 (channels) = 645,120MB or 650GB

Installing a 750GB SATA hard drive should provide enough space for one month's continuous recording time at those settings.

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APPENDIX

A.1 TROUBLESHOOTING

1. **The DVR does not boot up properly** ***Possible Causes:***
   a. Input power is not correct, check power supply.
   b. Power switch button is damaged.
   c. Updated firmware using wrong file.
   d. Hard drive malfunction or something wrong with hard drive cable.
   e. Front panel error.
   f. Main board is damaged.

2. **DVR often automatically shuts down or stops running.** ***Possible Causes:***
   a. Input voltage is not stable or it is too low.
   b. Hard drive malfunction or something is wrong with the cable.
   c. Device is not getting enough power.
   d. Front video signal is not stable.
   e. Working environment is too hot, or too much dust.
   f. System board malfunction.

3. **System cannot detect hard drive.** ***Possible Causes:***
   a. No hard drive is installed
   b. Hard drive is damaged.
   c. Hard drive cable connection is loose.
   d. Main board SATA port is damaged.

4. **There is no video output to one or more channels.** ***Possible Causes:***
   a. Updated firmware using wrong file.
   b. Brightness is 0. Please restore factory default setup.
   c. There is no video input signal or it is too weak.
   d. Check privacy mask setup.
   e. Combo DVR hardware malfunctions.

5. **Real-time video color is distorted.** ***Possible Causes:***
   a. When using BNC output, NTSC and PAL setup is not correct. The real-time video becomes black and white.
   b. Combo DVR and monitor resistance is not compatible.
   c. Video transmission is too long signal is becoming degraded.
   d. Combo DVR color or brightness setup is not correct.

6. **Cannot search local records.** ***Possible Causes:***
   a. HDD ribbon is damaged.
   b. HDD is broken.
   c. Upgraded program is not compatible.
   d. The recorded file has been overwritten.
   e. Record function has been disabled.

7. **Video is distorted when searching local records.** ***Possible Causes:***
   a. Video quality setting is too low.
   b. Program read error, bit data is too small. There is mosaic in the full screen. Please restart the combo DVR to solve this problem.
   c. Hard drive data cable error.
   d. Hard drive malfunction.
   e. Combo DVR hardware malfunction.

8. **There is no audio when monitoring.** ***Possible Causes:***
   a. Channel with audio is not full screen, make the channel you want to hear audio on full screen.
   b. Audio cable is damaged.
   c. Combo DVR hardware malfunction.

9. **There is audio when monitoring but there is no audio when system plays back.** ***Possible Causes:***
   a. Setup is not correct. Please enable audio function
   b. Corresponding channel has no video input. Playback is not continuous when the screen is blue.

10. **Time display is not correct.** ***Possible Causes:***
    a. Setup is not correct
    b. Battery contact is not correct or voltage is too low.
    c. Crystal is broken.

11. **Motion detection function does not work.** ***Possible Causes:***
    a. Period setup is not correct.
    b. Motion detection zone setup is not correct.
    c. Sensitivity is too low.

12. **Cannot log in client-end or web.** ***Possible Causes:***
    a. For Windows 98 or Windows ME user, please update your system to Windows 2000 sp4 or later. Or you can install client-end software of lower version.
    b. ActiveX control has not been enabled.
    c. Video card driver on computer may need to be upgraded.
    d. Network connection error.
    e. Network setup error.
    f. Password or user name is invalid.

13. **There is only mosaic no video when previewing or playing back video file remotely.** ***Possible Causes:***
    a. Network bandwidth is not sufficient.
    b. Computer does not have enough resources to handle video flow.
    c. There is multiple-cast group setup in combo DVR. This mode can result in mosaic. Usually we do not recommend this mode.
    d. There is privacy mask or channel protection setup.
    e. Current user does not have monitoring rights.
    f. Combo DVR local video output quality is not good.

14. **Network connection is not stable.** ***Possible Causes:***
    a. Network is not stable.
    b. IP address conflict.
    c. MAC address conflict.
    d. PC or combo DVR network card is not good.

15. **Burn error /USB backup error.** ***Possible Causes:***
    a. Burner and combo DVR are in the same data cable.
    b. System uses too much CPU resources. Try stopping recording first and then begin backup.
    c. Data amount exceeds backup device capacity. It may result in burner error.
    d. Backup device is not compatible.
    e. Backup device is damaged.

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16. **Remote control does not work.** ***Possible Causes:***
    a. Need to enter the correct Device ID on the remote control.
    b. Distance is too far or control angle is too small.
    c. Remote control battery power is low.
    d. Remote control is damaged or combo DVR front panel is damaged.

17. **Can not playback the downloaded file.** ***Possible Causes:***
    a. There is no media player.
    b. Need Divx Codec in file player

18. **Forgot local menu operation password or network password**
    a. Contact Q-See tech support and we can generate a new password for the unit.

A.2 MINIMUM COMPUTER CONFIGURATION

Minimum required configuration of a PC for remote connection:

COMPONENT	MINIMUM REQUIRED
CPU	Intel P4 2.8G minimum or later Intel processor
MOTHERBOARD	Intel with Intel system chipset
HDD	250GB minimum
RAM	1GB minimum
VGA	Supports MOST* AGP and PCI-E Video Cards with 128MB of RAM or more with full Direct Draw support. *Some newer PCI-E cards are not yet supported
OS	Win 2000(SP4 above) /Win XP(SP2 above) /VISTA/ Win7
DIRECTX	9.0

Minimum PC configuration for 4-channel real time access with fully open mainstream channel

PC MODULE	PARAMETERS
CPU	Intel Core™2 Duo CPU E4600
MOTHERBOARD	G41/P41 chip
HDD	8200G
RAM	1GB
VGA	GMA3100/NVIDIA GeForce 8400/ ATI RADEON HD3450 Full Direct Draw Support with 512MB Video RAM
OS	Windows 2000(SP4 above) /Windows XP(SP2 above)/ VISTA/Win7
DIRECTX	9.0

WARNING! Do not turn the system power off during the upgrade process! Doing so may damage the chipset and prevent the DVR from starting.

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Q-SEE PRODUCT WARRANTY

Q-See is proud to back all of our products with a conditional service warranty covering all hardware for 12 months from the date of purchase. Additionally, our products also come with a free exchange policy that covers all manufacturing defects for one month from the date of purchase. Permanent upgrading service is provided for the software.

Liability Exclusions:

Any product malfunction or abnormalities in operation or damage caused by the following reasons are not within the free service scope of our company:

1. Equipment damage caused by improper operation.
2. Improper equipment operation environment and conditions (e.g., improper power, extreme environmental temperatures, humidity, lightning and sudden surges of electricity).
3. Damage caused by acts of nature (e.g., earthquake, fire, etc).
4. Equipment damage caused by the maintenance of personnel not authorized by Q-See.
5. Product sold over 12 months ago.

In order to fulfill the terms of your warranty, you must complete the registration process after purchasing our product. To do this, simply fill out the User's Information Card on our website at www.Q-See.com

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QUESTIONS OR COMMENTS? CONTACT US

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